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Abstract

INTERNATIONAL COLLABORATION FOR THE CONSTRUCTION OF NUCLEAR REACTORS

ACTION OF FRANCE

by MM. RENOU - C. E. A.
GOURE - C. E. A.
LEO - EDF
(Commissariat à l'Energie Atomique, France)

Has international collaboration led to judicious achievements or to over hasty expectations ? At a time when large hydraulic reserves are found to be workable in Eastern and Western North America, when natural gas is about to be commercialised in Northern and Southern Europe, when for social reasons the working of coal mines cannot be slowed down too much, it is preferable to proceed with caution if we wish to go far. This is the attitude in France and we do not wish to raise premature hopes in interested countries.

Past experience shows that international collaboration in our field appears to take three different forms, the effect of which on the scientific and industrial structure of the customer country may be very unequal.

a) The sale of a unit, ready for use, is doubtless the quickest to achieve. It may however be of only limited interest to the buyer if this purchase is a "foreign body", not fully assimilable on the scientific, technical and industrial levels, and becomes more of an anomaly than an acquisition.

b) On the other hand, like many other countries France takes part in original European achievements based on research reactors or prototypes ; their completion and success will open up a new era in the international collaboration for the construction of nuclear reactors (Dragon. Orgel).

In addition an experiment carried out with Belgium is the construction of a Franco-Belgian Centre by industrialists of the two countries on behalf of a group of Belgian and French electricity producers.

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c) It seems therefore that projects carried out in common constitute the real solution to the question, both from the viewpoint of good understanding between two countries and to further progress in the nuclear sciences and techniques.

With neighbouring countries France is engaged in fruitful discussions which could lead to the building of common Centres. Agreements will be necessary for these and the more participants, research organisations, producers of electricity and public or private industries involved, the more complex these agreements will be. The interests of the various partners will have to be taken into account, and it must be so arranged that each one gains in proportion to his own contribution.

A common Centre would evidently be an essential stage in international collaboration . In the long run such an enterprise, in spite of the difficulties involved, is the sign of an epoch where a true pooling of national effort is necessary.

This collaboration would involve an exchange of scientific, technical and economic information on various types of reactors (and, as the case arises the carrying out of research and experiments in common), the choice of the type of reactor to be used in the Centre, the study of convenient sites for construction, the examination of the general lay out of the electrical network in the region considered, the placing of funds, the working out of the preliminary draft and the final plan of the Centre, and the construction, by industrial associations of the two countries on behalf of an electricity production group, also of the two countries, the electricity produced being divided between them ; finally, collaboration can be taken beyond the first project by the setting up of a common research and development programme which could lead to the building of an original type of power reactor.

Such an effort should be situated within the framework of an overall collaboration, extended to all the main fields of nuclear science.

This collaboration may be obtained by way of bilateral agreements such as France has signed with a certain number of countries.